

Docket No.: FASC-10121  
Application No.: 10/782,146  
Amendment Date: March 29, 2006  
Reply of Office Action of: December 5, 2005

### **REMARKS**

Claims 1-5, 7-14, and 16-21 are currently pending in the application. Applicants have canceled claims 6 and 15, amended claims 1, 16-18, and 20, and added claim 21. Applicants request reconsideration of the application in light of the following remarks.

### **Rejections under 35 U.S.C. §103**

To establish a *prima facie* case of obviousness under 35 U.S.C. §103, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Third, the cited prior art reference must teach or suggest all of the claim limitations. Furthermore, the suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based upon the Applicants' disclosure. A failure to meet any one of these criteria is a failure to establish a *prima facie* case of obviousness. MPEP §2143.

Claims 1-20 were rejected by the Examiner under 35 U.S.C. § 103(a) as being unpatentable over Mackay et al. (U.S. Patent No. 6,139,136, hereinafter "Mackay"), in view of Wheeler et al. (U.S. Patent No. 6,467,888, hereinafter "Wheeler") and Arway (U.S. Patent No. 4,067,020, hereinafter "Arway") and VanSteenkiste (U.S. Patent No. 6,281,916, hereinafter "VanSteenkiste"). Applicants respectfully traverse this rejection and request reconsideration of the claims.

**Claims 1-15**

Firstly, it is noted that the Examiner has modified the Mackay reference by no less than three additional references for at least three distinct features. As such it appears that the Examiner is reaching in a hindsight approach in order to meet the claims.

Secondly, the base reference to Mackay must be construed in a manner contrary to the actual disclosure of Mackay. For example, the Examiner construes element 23 as “a first sub-reservoir” when the disclosure of Mackay describes element 23 as a supply reservoir having ink wells or sub reservoirs 27, 29, 31. Thus, recitation in claim 1, lines 11-14 requiring a first head portion to be fluidly connected to a first sub-reservoir outlet and a second print head portion to be fluidly connected to the second sub-reservoir outlet relies on first and second outlets fluidly connected with separate respective outlets, contrary to the disclosure and drawing figures of the present application. Furthermore, Mackay admits that the pressures at the print heads will vary during use due to changing ink well or sub-reservoir levels as set forth in column 3, lines 30-40. Thus, the recitation of claim 1, lines 15-17 is not met by Mackay.

Even though it appears that claim 1 prior to this amendment was not anticipated or made obvious by Mackay and the other references relied upon, claim 1 has been amended to include more positive recitation that the first and second pressures are substantially equal, and that these pressures are caused by capillary forces. Thus, the reference to Arway cannot properly be applied since Arway has extensive pressure sources, pressure regulators, sensors, and other mechanisms to manipulate ink flow and the pressures other than by gravitational pressure head and capillary forces, as does the present invention.

To meet the limitation of “air [being] sealed outside the system”, the Examiner has relied upon Wheeler. However, there is no explicit recitation that the system is sealed to prevent flow of air from without to inside the system. In particular, element 6 is disclosed as a bottle which appears to be rigid or semi-rigid. Thus, as a level of the ink drops, air would need to enter the bottle to replace the lost volume of ink. Otherwise, an adverse effect of

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negative pressure in the bottle would occur. Hence, it appears that the system of Wheeler may not be a system sealed against flow of air as recited in claim 1.

Therefore, claim 1 is considered to be allowable over the references relied upon, and a notice from the Patent office confirming the same is respectfully requested.

Claims 2-5 and 7-14 are considered to be allowable as depending from allowable claim 1 and for additional patentable features therein as may be appreciated by the Examiner.

Claim 15 has been canceled.

Claim 6 has been canceled and the matter thereof has been more positively incorporated together with matter similar to claim 1 and added herein as new claim 21. While the Examiner rejected claim 6, apparently on the basis of Arway's disclosure of different sizes of reservoirs, claim 6 actually recited "adjustable in height" which is different from selection of different sizes of reservoirs. This is particularly so when the height adjustment is for the specific purpose of causing a particular pressure in the conduits from the reservoir to the printing head. Claim 21 now recites "an adjustment mechanism connected to the first sub-reservoir" and "the second print head portion being above the first print head portion by a difference proportional to a difference between the second and first sub-reservoir outlets", which is supported by recitation in the present application at page 15, lines 15-18. These features are not provided by any of the prior art relied upon. Therefore, new claim 21 is considered to be allowable.

#### **Claims 16-20**

Claims 16-20 were rejected as being inherently taught in the apparatus of claims 1-15. Claim 16 has been amended to recite the step of "causing a first pressure at the first print head portion to be substantially equal to a second pressure at the second print head portion by capillary forces". This is not shown or taught by any of the references relied upon. Mackay admits that the pressures in the ink wells or sub-reservoirs 27, 29, and 31 of his invention will vary from each other. Furthermore, what the Examiner construes as a sub-reservoir includes a

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plurality of sub-reservoirs such that Mackay is improperly construed. Accordingly, the second outlet is actually fluidly connected to a second sub-reservoir contrary to claims 1 and 16 which supply the first and second print heads from the first sub-reservoir. Therefore, claim 16 is considered to be allowable over Mackay and the additional references combined therewith as set forth in the arguments against the rejections of claims 1-15 above.

Claims 17-20 are considered to be allowable as depending from allowable base claim 16 and for additional patentable features as may be appreciated by the Examiner.

Applicants respectfully request that the obviousness rejections of claims 1-5, 7-14, and 16-21 be withdrawn, and a notice of allowance of these claims forwarded to Applicant's representative.

#### **Regarding Doctrine of Equivalents**

Applicants hereby declare that any amendments herein that are not specifically made for the purpose of patentability are made for other purposes, such as clarification, and that no such changes shall be construed as limiting the scope of the claims or the application of the Doctrine of Equivalents.

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### **CONCLUSION**

Applicant respectfully requests that a timely Notice of Allowance be issued in this case.


It is requested that a one-month extension of time be granted for the filing of this response, and the appropriate extension filing fee of \$60.00 is enclosed herewith.

The amendments herein added no total independent or dependent claims, resulting in no fees due.

If any fees, including extension of time fees or additional claims fees, are due as a result of this response, please charge Deposit Account No. 19-0513. This authorization is intended to act as a constructive petition for an extension of time, should an extension of time be needed as a result of this response. The examiner is invited to telephone the undersigned if this would in any way advance the prosecution of this case.

Respectfully submitted,

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